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TRANSMITTAL FORM

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Total Number of Pages in This Submission

4

Application Number

10/780,424

Filing Date

February 17, 2004

First Named Inventor

Bohn Jr. et al.

Art Unit

1762

Examiner Name

Attorney Docket Number

5853-401

ENCLOSURES (Check all that apply)

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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Neil R. Jetter Akerman Senterfitt
Signature	
Date	August 20, 2004

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This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventive Application of: BOHN Jr. et al.

Serial No.: 10/780,424

Examiner:

Date Filed: February 17, 2004

Group: 1762

For: DYNAMICALLY MODIFIABLE POLYMER COATINGS AND DEVICES

CERTIFICATE UNDER 37 CFR 1.8(a)

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as First Class mail in an envelope addressed to Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on August 20, 2004.

Neil R. Jetter

Reg. No. 46,803

PETITION TO MAKE SPECIAL UNDER 37 C.F.R. § 1.102 (c) and (d)

Mail Stop Petition
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 C.F.R. § 1.102(c) and (d), and MPEP 708.02, Applicants hereby petition to make special for an advancement the above-described application filed herewith. Although no fee is believed due, the Commissioner is hereby authorized to charge any fee deemed due or credit any overpayment to Deposit Account number 50-0951.

Applicants request special status for the above-referenced application on the basis that the claimed technology will materially enhance the quality of the environment as recited in 37 C.F.R. § 1.102(c) and can substantially aid in homeland defense, including the countering terrorism.

The invention relates to polymer-based coatings having dynamically alterable surfaces which include at least one electrically conducting polymer. Such surfaces have been found to highly resist to biofouling which is the result of marine organisms settling, attaching, and growing on submerged marine surfaces. Due to the vast variety of marine organisms that form biofilms, the development of a single surface coating with fixed surface properties for the prevention biofilm formation for all relevant marine organisms is a difficult if not impossible task.

Current anti-fouling generally relies on anti-fouling coatings to prevent or deter the settling of biofouling organisms on a surface by the use of leached biocides, typically cuprous oxide or tributyltin, into the water. Although some non-toxic foul release coatings have become available, such coatings are generally not sufficiently effective. The biocides are either tethered to the coated surface or are released from the surface into the surrounding environment. Use of these types of coatings has caused damage to the marine ecosystem, especially in shallow bays and harbors, where the biocides can accumulate. As such, the use of tributyltin has been banned in many parts of the world. These products are effective for only approximately 2 to 5 years.

Since the invention provides this important benefit without using toxic materials, the claimed technology is expected to materially enhance the quality of the environment as recited in 37 C.F.R. § 1.102(c) by lessening the need for toxic anti-fouling coatings.

The invention can also substantially aid in homeland defense, including the countering terrorism. Specifically, paragraph 5 of the application includes the following:

"Biofouling is estimated to cost the US Navy alone over \$1 billion per year by increasing the hydrodynamic drag of naval vessels. This in turn decreases the range, speed, and maneuverability of naval vessels and increases the fuel consumption by up to 30-40%."

[0001] In one embodiment of the invention, a non-toxic biofouling preventative system includes a polymer-based coating disposed on a subsurface of a boat or ship. The coating comprises a polymeric layer, the polymeric layer including at least one electrically conducting polymer. The polymeric layer generally includes at least one non-electrically conductive polymer mixed with the electrically conducting polymer.

[0002] A power supply supplies a dynamic electrical signal to the polymeric layer, wherein a contact angle of the polymeric layer substantially increases or decreases upon at least one of oxidation and reduction responsive to the dynamic signal. The polymer layer can also substantially expand or contract in at least one dimension (e.g. height, or width) upon at least one of oxidation and reduction. The subsurface of the boat or ship can be a metal or metal alloy (e.g. steel), wherein one terminal of the power supply is electrically connected to the subsurface of the boat or ship. By improving the range, speed, and maneuverability of naval vessels, the invention can substantially aid in homeland defense, including the countering terrorism.

In order to expeditiously bring this technology to the frontline against the war on terrorism, Applicants respectfully request a grant of this petition to make special for an advancement of examination under 37 C.F.R. § 1.102 (c) and (d).

Respectfully submitted,

Date: August 20, 2004



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